

# Soil Partners' Day

13 July 2023 | 15:00 16:00

German room

## SOIL BIODIVERSITY: Enhancing soil microbial biomass in crop production

Agroplasma

**GLOBAL SOIL  
PARTNERSHIP**  
11<sup>th</sup> Plenary Assembly  
12-14 July 2023



# Summary

FAO's GSP promotes soil biodiversity, this presentation summarizes an agricultural technique used to biomagnify soil microbial biomass using low technology in-field bioreactors.

The application of beneficial microorganisms in agriculture is a widely used technique that consist in the incorporation of bacteria and fungi to soils, in general terms this is due to its biofertilization and biocontrol activities. However, the use of commercial microorganisms in fields continues to be expensive and its beneficial effects have not managed to balance the cost:benefit ratio.

To cope with farmers cost:benefit balance, we developed an standardized method to produce large amounts beneficial microbial biomass; the team have already installed 200 low technology in-field bioreactors in 16 Mexican regions. The soil microbial communities management method allowed farmers to produce and apply up to 2000 liters per hectare distributed in a 120 days of crop cycle with an average cost of 0.23 USD/liter. Observed effects include increased soil microbial biomass, improved nutrient uptake, reduced plant diseases, and positive effects on soil carbon sequestration rates.

This method has been tested, accepted, and used in Mexico by agricultural market drivers such as PEPSICO, Berrymex (Driscoll's) and several farmers.

# Agenda

- In-Field Bioreactor Technology
- Microbial and Biocontrol Processes
- Achievements
  - Biofertilization and Biocontrol
  - Status of Technology Adoption in MX
  - Costs
- Acknowledgements
- Time for Q&A

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